UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/676,846	ROESSLER ET AL.
Office Action Summary	Examiner	Art Unit	
	SAMIR TERMANINI	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 March 2009</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-7,9,11-15,17-19,21 and 22</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4-7,9,11-15,17-19,21 and 22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>30 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

BACKGROUND

1.   This Action is responsive to communications: filed on 3/10/2009.

2.   Claim s 1, 2, 4-7, 9, 11-15, 17-19, 21, and 22 pending.

RESPONSE TO AMENDMENT

3.   Arguments concerning the Examiner's Rejections of claims 1, 2, 4-15, 17-19, 21 and 22 under 35 U.S.C. §102(b) in the previous Office Action have been fully considered but are not persuasive. The rejections have been maintained in view of *Robothamv et al.* (PG-Pub. 2002/0015042 A1), addressed below.

CLAIM REJECTIONS-35 U.S.C. §102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   **Claims 1, 2, 4-9, 11-15, 17-19,21 and 22** are rejected under 35 U.S.C. 102(b) as being anticipated by *Robothamv et al.* (PG-Pub. 2002/0015042 A1).

I.   <u>Citation of Prior Art</u>

A reference to specific paragraphs, columns, pages, or figures in a cited prior art reference is not limited to preferred embodiments or any specific examples[1]. It is well settled that a prior art reference, in its entirety, must be considered for all that it expressly teaches and fairly suggests to one having ordinary skill in the art[2]. Stated differently, a prior art disclosure reading on a limitation of Applicant's claim cannot be ignored on the ground that other embodiments disclosed were instead cited. Therefore, the Examiner's citation to a specific portion of a single prior art reference is not intended to exclusively dictate, but rather, to demonstrate an exemplary instance where the disclosure is commensurate with the specific limitation(s) being addressed.

II.   General Discussion of the Applied Prior Art.

Robothamv et al. relates to display of visual content on a client device using server-side rasterization of visual content. Visual content is rendered on a server system, transformed into bitmaps compatible with the display attributes of a client device, and transmitted for display on the client device. The invention allows the server to perform, in effect, as a remote browser for displaying Web pages, e-mail, e-mail attachments, electronic document and forms, database queries and results, drawings, presentations, and images at the client device. The approach is "remote" because the server does the rendering and the client provides the interface; "multi-level" because rendered visual content is represented as a multi-level set of raster

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[1] *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968).
[2] *Upsher-Smith Labs. v. Pamlab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005); *In re Fritch*, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992); *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989); *In re Fracalossi*, 681 F.2d 792, 794 n.1, 215 USPQ 569, 570 n.1 (CCPA 1982); *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

representations; and constitutes a "browsing system" because the client and server share data about the source visual content element being browsed, and the client performs a specific browsing function assisted by the server.

III.   Prior Art Anticipation of Claimed Limitations.

As to independent **claim 1**, *Robothamv et al.* describe(s): a computer program product ("...computer program...," para. [0058]), tangibly embodied in a computer-readable storage medium ("...mass storage device ...," para. [0059]), comprising instructions operable on a client computer to: provide on a client computer a user interface for a computer program application ("...client device...," para. [0002]), the user interface being operable to receive input from a user interacting with the client and from the input to generate user interaction events ("...event processing functions...," para. [0108]); identify on the client one or more possible user interaction events while the user interface is in a current user interface state ("...at different states of play or a transaction at different stages of processing...," para. [0106]), the possible user interaction events being user interaction events that would arise from an input the user interface could possibly receive ("...The server 22 interprets such events as user interface actions on its own proxy display surface 28 and responds by generating the appropriate events and/or actions on its display surface 28, which is transmitted to client 24 for display thereon. Consequently, event processing occurs cyclically, with events caused by user actions transmitted to the server, and appropriately updated display information provided to the client....," para. [0073]), in the current user interface state ("...state of the remote browsing session....," para. [0131]), from the user ; pre-process one or more of the possible user interaction events to generate one or more possible user interface

states ("...a context and state for coordinating different functions of the browser...," para. [0075]);

store the one or more possible user interface states for later use ("...later time ...," para. [0235]);

pre-render one or more of the possible user interface states to generate one or more possible user

interface appearances while the user interface is in the current user interface state ("...Each

remote browsing session has associated browsing session data 40 that maintains the context and

state of the remote browsing session...," para. [0131]); and store the one or more possible user

interface appearances for later use ("...In a further embodiment, additional events received during

client event processing are queued for later processing....," para. [0269]) determine an estimated

likelihood for the possible user interaction events to occur based on a history of previous user

inputs to the user interface and select one or more of the possible user interaction events to pre-

process based on the estimated likelihoods for the possible user interaction events:

> [0297] If switches between representation levels are handled on the client device
> 24, the client 24 can echo a selection event to the server 22, since it contains
> useful information about current client 24 activity.
>
> <div align="center">***</div>
>
> [0299] Client-side Caching of Derived Representations
>
> [0300] When the client 24 is caching derived representations, interface 9
> determines which caches are valid and when it is appropriate to request refreshed
> versions from the server 22. A cache validation scheme can be based on the "age"
> of a cached representation. The age is defined as the difference between the
> current time and the time when the cached representation was received from the
> server 22. In one embodiment, the client 24 requests a refresh when the age
> exceeds a certain threshold. The aging threshold can be set by the server 22 and
> sent to the client or, alternatively, be set by the client 24 or the client user.

As to dependent **claim 2**, which depends from claim 1, *Robothamv et al.* further disclose(s): the product of claim 1, further comprising instructions to: receive an actual input from the user and, if one of the possible user interface states corresponds to a user interaction event that arises from the actual input from the user ("...comparing time-stamps between the current visual content element 10 and the cached representation;....," para. [0321]), make the corresponding one of the possible user interface states the current user interface state ("...accessing refresh data associated with the current visual content element 10....," para. [0321]).

As to dependent **claim 4**, which depends from claim 1, *Robothamv et al.* further disclose(s): the product of claim 1, wherein the instructions to pre-render one or more of the possible user interface states comprise instructions to generate code to render the corresponding user interface states:

[0010] For example, an HTML document can be rendered by an HTML rendering function in one rasterizing mode. This HTML source can also be transcoded to a WML (Wireless Markup Language) format and then rasterized by a WML rendering function in a second rasterizing mode. The two different representations can be associated as a multi-modal set, based on their relationship to the original HTML-encoded visual content element.

[0011] Transcoding can also be used to generate a different version of the source visual content element using the same encoding format as the original. For example, an HTML document can be transcoded into another HTML document, while changing, translating or removing certain encoded data. For example, references to unwanted or objectionable content can be removed, automatic language translation can be applied to text components, or layout directives can be removed or changed to other layout directives.

As to dependent **claim 5**, which depends from claim 4, *Robothamv et al.* further disclose(s): the product of claim 4 wherein the code to render the corresponding user interface states comprises HTML (Hypertext Markup Language) code ("...The format of the text-related content can be represented in a specialized format, a subset of a standard format, such as HTML...," para. [0529]).

As to dependent **claim 6**, which depends from claim 1, *Robothamv et al.* further disclose(s): the product of claim 1, further comprising instructions to: receive an actual input from the user and, if one of the possible user interface states corresponds to a user interaction event that arises from the actual input from the user, making the corresponding one of the possible user interface appearances a user interface appearance of the current user interface state ("The two different representations can be associated as a multi-modal set, based on their relationship to the original HTML-encoded visual content element.," para. [0010]) .

As to dependent **claim 7**, which depends from claim 1, *Robothamv et al.* further

disclose(s): the product of claim 1, further comprising instructions to: specify an order for pre-

processing possible user interaction events

> "...In one embodiment, the data transmission is sequenced in a manner
> allowing an overview representation to arrive first, thereby providing the
> client 24 device with an opportunity to display the overview representation
> while other representations are transmitted....,"

(para. [0189]).

As to dependent **claim 9**, which depends from claim 1, *Robothamv et al.* further

disclose(s): the product of claim 8, wherein: the user interface comprises a control having

instructions to establish the estimated liklehoods for the possible user interaction events f

("...generating multiple client display surfaces (stored in main memory and/or in mass storage)

that collectively represent the single virtual client display surface 26...," para. [0146]);

("...implementation of prioritized viewing for selection ...," para. [0208]).

As to dependent **claim 11**, which depends from claim 1, *Robothamv et al.* further

disclose(s): the product of claim 1, wherein: the instructions to pre-process one or more of the

possible user interaction events to generate one or more possible user interface states comprise

instructions to obtain data from the application for possible user interface states ("...obtains

information specifying the dimensions and display characteristics of the client viewport, and

explicitly represents the client viewport 16...," para. [0126]).

As to dependent **claim 12**, which depends from claim 1, *Robothamv et al.* further

disclose(s): the product of claim 1, wherein the instructions to each of the selected possible user

interaction events has estimated likelihoods of occurrence exceeding a threshold and the possible

user interaction events other than the selected possible user interaction events have estimated

likelihoods that do not exceed the threshold. ("...The aging threshold can be set by the server 22

and sent to the client or, alternatively, be set by the client 24 or the client user....," para. [0300]).

   As to dependent **claim 13**, which depends from claim 1, *Robothamv et al.* further

disclose(s): the product of claim 1, wherein: the computer program application is a program

running on a server computer in data communication with the client computer ("...The user

experience differs from the user experience in which the client 22 propagates the same location

events to the server 22....," para. [0287]); and the instructions to provide a user interface on the

client computer comprise instructions to provide the user interface in a Web browser ("...In some

embodiments, server-side rendering is accomplished using a web browser...," para. [0157]).

   As to independent **claim 14**, *Robothamv et al.* describe(s):, the user interface being

operable to receive input from a user interacting with the client and from the input to generate

user interaction events ("...event processing functions...," para. [0108]);

[0297] If switches between representation levels are handled on the client device 24, the client 24 can echo a selection event to the server 22, since it contains useful information about current client 24 activity.

***

[0299] Client-side Caching of Derived Representations

[0300] When the client 24 is caching derived representations, interface 9 determines which caches are valid and when it is appropriate to request refreshed versions from the server 22. A cache validation scheme can be based on the "age" of a cached representation. The age is defined as the difference between the current time and the time when the cached representation was received from the server 22. In one embodiment, the client 24 requests a refresh when the age exceeds a certain threshold. The aging threshold can be set by the server 22 and sent to the client or, alternatively, be set by the client 24 or the client user.

iidentifying on the client one or more possible user interaction events while the user interface is in a current user interface state ("...at different states of play or a transaction at different stages of processing...," para. [0106]), the possible user interaction events being user interaction events that would arise from an input the user interface could possibly receive from the user , in the current user interface state, from the user ;

determininq an estimated likelihood for the possible user interaction events to occur based on a history of previous user inputs to the user interface; selectinq one or more of the possible user interaction events to pre-process based on the estimated likelihoods for the possible user interaction events;

 pre-processing one or more of the possible user interaction events to generate one or more possible user interface states ("...Each remote browsing session has associated browsing session data 40 that maintains the context and state of the remote browsing session...," para. [0131]);

storing the one or more possible user interface states for later use, pre-renderinq one or more of the possible user interface states togenerate one or more possible user interface appearances while the user interface is in the current user interface state ; and storing the one or more possible user interface appearances for later use ("...In a further embodiment, additional events received during client event processing are queued for later processing....," para. [0269]).

As to dependent **claim 15**, which depends from claim 14, *Robothamv et al.* further disclose(s): the method of claim 14, further comprising: receiving an actual input from the user and, if one of the possible user interface states corresponds to a user interaction event that arises from the actual input from the user, make the corresponding one of the possible user interface states the current user interface state ("...the server sends the corresponding partial raster representation to client for browsing...," para. [0027]).

As to dependent **claim 17**, which depends from claim 14, *Robothamv et al.* further disclose(s): the method of claim 14, further comprising: specifying an order for pre-processing the possible user interaction events ("...pre-rendering step...," para. [0018]).

As to independent **claim 18**, *Robothamv et al.* describe(s): An apparatus, comprising: a means formplementing a user interface for a computer program application ("...executable computer program instructions...," para. [0060]), the user interface being operable to receive input from a user interacting with the client and from the input to generate user interaction events ("...event processing functions...," para. [0108]), means for identifying one or more possible user interaction events while the user interface is in a current user interface state ("...at different states of play or a transaction at different stages of processing...," para. [0106]), the possible user interaction events being user interaction events that would arise from an input the user interface

could possibly receive ("...If a relevant proxy display surface 28 has already been generated for

the entire visual content element, then only the transform and possibly transmission functions

need to be performed....," para. [0505]), in the current user interface state ("...context and state

...," para. [0075]), means for determining an estimated likelihood for the possible user interaction

events to occur based on a history of previous user inputs to the user interface; means for

selecting one or more of the possible user interaction events to pre- process based on the

estimated likelihoods for the possible user interaction events:

> [0297] If switches between representation levels are handled on the client device
> 24, the client 24 can echo a selection event to the server 22, since it contains
> useful information about current client 24 activity.
> ***

> [0299] Client-side Caching of Derived Representations

> [0300] When the client 24 is caching derived representations, interface 9
> determines which caches are valid and when it is appropriate to request refreshed
> versions from the server 22. A cache validation scheme can be based on the "age"
> of a cached representation. The age is defined as the difference between the
> current time and the time when the cached representation was received from the
> server 22. In one embodiment, the client 24 requests a refresh when the age
> exceeds a certain threshold. The aging threshold can be set by the server 22 and
> sent to the client or, alternatively, be set by the client 24 or the client user.

means for pre-processing one or more of the possible user interaction events to generate

one or more possible user interface state; and means for storing the one or more possible user

interface states for later use ("In one embodiment, the client 24 requests a refresh when the age

exceeds a certain threshold.," para. [0300]); means for pre-rendering one or more of the possible

user interface states to generate one or more possible user interface appearances while the user

interface is in the current user interface state ("...The likelihood of a stale cache is increased in

the third approach. In one embodiment, the client 24 requests that the server 22 determine if a

refresh is recommended, and if so indicates to the user that a "stale" cached version is being displayed until the refresh arrives....," para. [0285]); and means for storing the one or more possible user interface appearances for later use ("...In a further embodiment, additional events received during client event processing are queued for later processing....," para. [0269]) a processor for implementinq at least the means for pre-processing.

As to dependent **claim 19**, which depends from claim 18, *Robothamv et al.* further disclose(s): the apparatus of claim 18, further comprising: means for receiving an actual input from the user and, if one of the possible user interface states corresponds to a user interaction event that arises from the actual input from the user, making the corresponding one of the possible user interface states the current user interface state ("...accessing refresh data associated with the current visual content element 10....," para. [0321]).

As to dependent **claim 21**, which depends from claim 18, *Robothamv et al.* further disclose(s): the apparatus of claim 18, further comprising: means for specifying an order for pre-processing the possible user interaction events:

> "...In one embodiment, the data transmission is sequenced in a manner allowing an overview representation to arrive first, thereby providing the client 24 device with an opportunity to display the overview representation while other representations are transmitted....,"

(para. [0189]).

As to dependent **claim 22**, which depends from claim 12, *Robothamv et al.* further disclose(s): the product of claim 12, further comprising instructions for raising or lowering the threshold ("Similar mechanisms allow the client 24 user to select a lower level representation

from a higher level representation. Selection events include user interface actions such as mouse

"clicks," pen clicks, or button presses.," para. [0201]).

<div align="center">RESPONSE TO ARGUMENTS</div>

6.   Applicant arguments, with respect to the 35 U.S.C. §102 Rejections cited by the

Examiner in the previous Office Action have been fully considered but are maintained in view of

Robothamv et al.

Applicant argues:

> Robotham's "likelihood" is not determined based on a history of previous
> user inputs to a user interface, but rather simply reflects that the data at the
> client is more likely to be stale. For these reasons, Robotham does not
> teach or suggest "determin[ing] an estimated likelihood for the possible
> user interaction events to occur based on a history of previous user inputs
> to the user interface," as recited by independent claim 1 (emphasis added).

The Examiner points out that Robotham's "likelihood" is in fact determined based on a history of

previous user inputs to a user interface:

> A representative embodiment illustrates the advantages of adaptive client/server
> rendering. The user views a server-side rendering of an e-mail message which
> contains attachments rendered as hypertext links. The user clicks on a hypertext
> link to view the associated document. In current client-side rendering systems,
> this initiates a download of the associated document and either a "file save" or a
> client-side rendering of the document.

See also clm. 19:

> 19. The method of claim 18 further comprising the steps of: producing a user
> interface action at the user interface; and generating a response in response to the
> user interface action and the data element.

Also taught in para. 300: The cache validation scheme can be based on the "age" of a

cached representation. The age is defined as the difference between the current time and the time

when the cached representation was received from the server 22.

CONCLUSION

7.   All prior art made of record in this Office Action or as cited on form PTO-892

notwithstanding being relied upon, is considered pertinent to applicant's disclosure.

[1]   *Barrett et al.* (US Patent No. 5,727,129) for teaching a system that tracks a user's
       past history of websites visited, including the frequency and dates and times of
       visits, in order to predict what web information is likely to be accessed by the user
       in the future.

[2]   *Smith et al.* (US Patent No. 6,742,033 B1) for teaching a that network
       delivered/based content can be sped up to pre-cache internet content where pre-
       caching internet content may mean downloading information from the internet
       that the system predicts that the user will request in the future.

[3]   *Aaker et al.* (US Patent No. 5,758,087 A) for teaching a computer, e.g. a server or
       computer operated by a network provider sends one or more requesting computers
       (clients) a most likely predicted-to-be selected (predicted) page of information by
       determining a preference factor for this page based on one or more pages that are
       requested by the client.

[4]   *Mogul* (US Patent No. 5,802,292 A) for teaching a method for predictive pre-
       fetching of objects over a computer network.

[5]   *O'Brien et al.* (US Patent No. 6,055,569 A) for teaching a browser working in
       conjunction with a HTTP server that selectively downloads WWW pages into the
       browser's memory cache by evaluating the weight to a predetermined browser
       criteria so only those pages most probably to be downloaded are stored in the
       browser's memory cache.

[6]   *Horvitz* (US Patent No. 6,067,565 A) for teaching a technique for pre-fetching a
       web page of potential future interest in lieu of continuing a current information
       download.

[7]   *Horvitz* (US Patent No. 6,085,226 A) for teaching a method and apparatus for utility-directed prefetching of web pages into local cache using continual computation and user models.

[8]   *Altschuler et al.* (US Patent No. 6,154,767 A) for teaching building a resource (such as Internet content for example) and attribute transition probability models and using such models to predict future resource and attribute transitions.

Therefore, Applicant is required under 37 CFR §1.111(c) to consider these references fully when responding to this Office Action.

8.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samir Termanini at telephone number is (571) 270-1047. The Examiner can normally be reached from 9 A.M. to 6 P.M., Monday through Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samir Termanini/   /Stephen S. Hong/
Examiner, Art Unit 2178   Supervisory Patent Examiner, Art Unit 2178